

ART 31 AMEND

We claim:

1. A process for removing high boilers from crude caprolactam which comprises high  
boilers, caprolactam and in some cases low boilers, and which has been obtained by
  - a) reacting 6-aminocapronitrile with water to give a reaction mixture
  - b) removing ammonia and unconverted water from the reaction mixture to obtain  
crude caprolactam,  
which comprises
  - c) feeding the crude caprolactam to a distillation apparatus to obtain  
a first substream via the top as a product and  
a second substream via the bottom,  
by setting the pressure in the distillation in such a way that the bottom temperature  
does not go below 170°C, and  
adjusting the second substream in such a way that the caprolactam content of the  
second substream is not less than 75% by weight, based on the entire second  
substream.
2. A process as claimed in claim 1, wherein step a) is carried out in the presence of a liquid  
diluent.
3. A process as claimed in claim 2, wherein the liquid diluent is removed in step b).
4. A process as claimed in any of claims 1 to 3, wherein the removal of water is carried out  
in step b) by transferring the reaction mixture into conditions such that the reaction  
mixture forms a high-water and a low-water liquid phase, of which the high-water phase is  
removed.
5. A process as claimed in any of claims 1 to 4, wherein the low boilers are removed  
between steps b) and c).
6. A process as claimed in any of claims 1 to 4, wherein low boilers are removed after step  
c).

AMENDED SHEET

ART 34 REEST

7. A process as claimed in claim 5 or 6, wherein the low boiler removed is 6-amino-capronitrile.
8. A process as claimed in any of claims 1 to 7, wherein the second substream from step c) is partly or fully recycled to step a).

5